IN THE CLAIMS:

Please CANCEL claims 1-4, 10-13, 19-23 and 26-49, without prejudice or disclaimer.

Please AMEND the claim as follows.

1-4. (CANCELED)

5. (CURRENTLY AMENDED) An apparatus ~~as in claim 1, further~~ comprising:

a detector detecting disconnection in an optical transmission line in accordance with Brillouin scattering occurring in the transmission line; and

an optical transmitter transmitting a light which alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, the transmitted light provided to the transmission line so that the transmitted light travels in the transmission line and thereby causes returning light to be generated in the transmission line in a reverse direction to the transmitted light in accordance with Brillouin scattering occurring in the transmission line, wherein the detector detects the returning light and detects disconnection from the detected returning light.

6. (ORIGINAL) An apparatus as in claim 5, wherein the detector detects disconnection in accordance with a Stokes component in the detected returning light.

7. (CURRENTLY AMENDED) An apparatus ~~as in claim 2, further~~ comprising:

a detector detecting disconnection in an optical transmission line in accordance with Brillouin scattering occurring in the transmission line, wherein, prior to the detection of a disconnection by the detector, signal light is transmitted through the transmission line at a power level above a predetermined level;

a controller reducing the power level of the signal light to be at or below the predetermined level when the detector detects disconnection; and

an optical transmitter transmitting a light which alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, the transmitted light provided to the transmission line so that the transmitted light travels in the transmission line and thereby causes returning light to be generated in the transmission line in a reverse direction to the transmitted light in accordance with Brillouin scattering occurring in the transmission line, wherein the detector detects the returning light and detects disconnection from the detected returning light.

8. (CURRENTLY AMENDED) An apparatus ~~as in claim 3, further~~ comprising:

a detector detecting disconnection in an optical transmission line in accordance with Brillouin scattering occurring in the transmission line, wherein, prior to the detection of a disconnection by the detector, signal light is transmitted through the transmission line at a power level above a predetermined level;

a controller reducing the power level of the signal light to be at or below the predetermined level when the detector detects disconnection;

an optical amplifier amplifying the signal light, wherein the controller controls gain of the optical amplifier to thereby control the power level of the signal light; and

an optical transmitter transmitting a light which alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, the transmitted light provided to the transmission line so that the transmitted light travels in the transmission line and thereby causes returning light to be generated in the transmission line in a reverse direction to the transmitted light in accordance with Brillouin scattering occurring in the transmission line, wherein the detector detects the returning light and detects disconnection from the detected returning light.

9. (CURRENTLY AMENDED) An apparatus ~~as in claim 4, further~~ comprising:

a detector detecting disconnection in an optical transmission line in accordance with Brillouin scattering occurring in the transmission line, wherein, prior to the detection of a disconnection by the detector, signal light is transmitted through the transmission line at a power level above a predetermined level;

a controller reducing the power level of the signal light to be at or below the predetermined level when the detector detects disconnection;

a variable optical attenuator optically attenuating the signal light, wherein the controller controls attenuation of the variable optical attenuator to thereby control the power level of the signal light; and

an optical transmitter transmitting a light which alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, the transmitted light provided to the transmission line so that the transmitted light travels in the transmission line and thereby causes returning light to be generated in the transmission line in a reverse direction to the transmitted light in accordance with Brillouin scattering occurring in the transmission line, wherein the detector detects the returning light and detects disconnection from

the detected returning light.

10-13. (CANCELED)

14. (CURRENTLY AMENDED) A method ~~as in claim 10, further~~ comprising:

detecting disconnection in an optical transmission line in accordance with Brillouin scattering occurring in the transmission line; and

transmitting a light which alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, the transmitted light provided to the transmission line so that the transmitted light travels in the transmission line and thereby causes returning light to be generated in the transmission line in a reverse direction to the transmitted light in accordance with Brillouin scattering occurring in the transmission line, wherein said detecting detects the returning light and detects disconnection from the detected returning light.

15. (ORIGINAL) A method as in claim 14, wherein said detecting detects disconnection in accordance with a Stokes component in the detected returning light.

16. (CURRENTLY AMENDED) A method ~~as in claim 11, further~~ comprising:

detecting disconnection in an optical transmission line in accordance with Brillouin scattering occurring in the transmission line, wherein, prior to the detection of a disconnection, signal light is transmitted through the transmission line at a power level above a predetermined level;

reducing the power level of the signal light to be at or below the predetermined level when the detector detects disconnection; and

transmitting a light which alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, the transmitted light provided to the transmission line so that the transmitted light travels in the transmission line and thereby causes returning light to be generated in the transmission line in a reverse direction to the transmitted light in accordance with Brillouin scattering occurring in the transmission line, wherein said detecting detects the returning light and detects disconnection from the detected returning light.

17. (CURRENTLY AMENDED) A method ~~as in claim 12, further~~ comprising:

detecting disconnection in an optical transmission line in accordance with Brillouin scattering occurring in the transmission line, wherein, prior to the detection of a disconnection, signal light is transmitted through the transmission line at a power level above a predetermined level;

reducing the power level of the signal light to be at or below the predetermined level when the detector detects disconnection;

amplifying the signal light with an optical amplifier, wherein said reducing controls gain of said amplifying to thereby control the power level of the signal light; and

transmitting a light which alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, the transmitted light provided to the transmission line so that the transmitted light travels in the transmission line and thereby causes returning light to be generated in the transmission line in a reverse direction to the transmitted light in accordance with Brillouin scattering occurring in the transmission line, wherein said detecting detects the returning light and detects disconnection from the detected returning light.

18. (CURRENTLY AMENDED) A method ~~as in claim 13, further~~ comprising:

detecting disconnection in an optical transmission line in accordance with Brillouin scattering occurring in the transmission line, wherein, prior to the detection of a disconnection, signal light is transmitted through the transmission line at a power level above a predetermined level;

reducing the power level of the signal light to be at or below the predetermined level when the detector detects disconnection;

optically attenuating the signal light, wherein said reducing controls attenuation of said optical attenuating to thereby control the power level of the signal light; and

transmitting a light which alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, the transmitted light provided to the transmission line so that the transmitted light travels in the transmission line and thereby causes returning light to be generated in the transmission line in a reverse direction to the transmitted light in accordance with Brillouin scattering occurring in the transmission line, wherein said detecting detects the returning light and detects disconnection from the detected returning light.

19-23. (CANCELED)

24. (CURRENTLY AMENDED) An apparatus ~~as in claim 21,~~ comprising:

a transmitter transmitting light which is provided to, and travels in, an optical transmission line, the transmitted light causing Brillouin scattering to occur in the transmission line, the Brillouin scattering thereby causing returning light to travel in the transmission line in a reverse direction than the light transmitted by the transmitter;

a detector detecting the returning light, and detecting disconnection in the transmission line in accordance with the detected returning light, wherein, prior to the detection of the disconnection by the detector, signal light travels through the transmission line at a power level above a predetermined level and in the same direction as the light transmitted by the transmitter; and

a controller reducing the power level of the signal light to be at or below the predetermined level when the detector detects disconnection,

wherein the light transmitted by the transmitter alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, to thereby cause the Brillouin scattering to occur.

25. (ORIGINAL) An apparatus comprising:

an optical transmitter transmitting a light which alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, the transmitted light provided to an optical transmission line so that the transmitted light travels in the transmission line and thereby causes returning light to be generated in the transmission line; and

an optical detecting section detecting the returning light, wherein disconnection of the transmission line is detected from the detected returning light.

26-49 (CANCELED)

50. (NEW) An apparatus comprising:

means for transmitting a light which alternately exhibits a spectrum line width wider than a Brillouin bandwidth and a spectrum line width narrower than the Brillouin bandwidth, the transmitted light provided to an optical transmission line so that the transmitted light travels in the transmission line and thereby causes returning light to be generated in the transmission line;

means for detecting the returning light; and

means for detecting disconnection of the transmission line from the detected returning light.